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Time perspective, academic motivation, and procrastination

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TIME PERSPECTIVE, ACADEMIC MOTIVATION, AND PROCRASTINATION

A Thesis

Presented to

the Faculty of the Department of Psychology

San Jose State University

In Partial Fulfillment

of the Requirements for the Degree

Master of Arts

By

Graciela Nora Borsato

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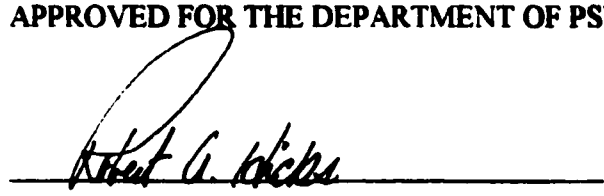

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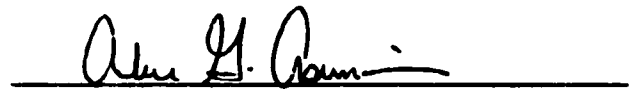

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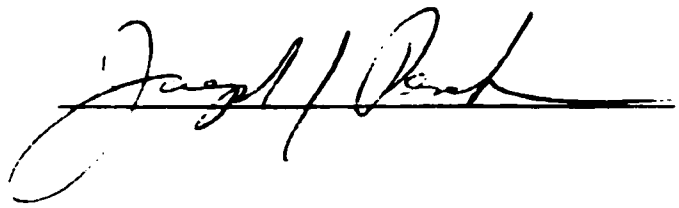

ABSTRACT

TIME PERSPECTIVE, ACADEMIC MOTIVATION, AND PROCRASTINATION

By Graciela Nora Borsato

Time perspective, the way we partition time into past, present, and future, was examined in relation to academic motivation style (amotivation, extrinsic motivation, and intrinsic motivation on a self-determination continuum) and procrastination. The responses of 305 undergraduate students to scales assessing their time perspective, motivation style, and procrastination tendency were analyzed. Results indicated that (a) there is a positive relationship between the Future time perspective and intrinsic motivation, (b) future-oriented students are more intrinsically motivated for their academic work than students with bleak temporal outlooks (Past Negative and Present Fatalistic), (c) there is a positive relationship between the Present-Fatalistic orientation and amotivation, and (d) present-oriented students tend to procrastinate more than future-oriented students. The implications of these results are examined.

TABLE OF CONTENTS

SECTION	PAGE
INTRODUCTION	3
METHOD	10
Research Participants	10
Measures	10
Academic Motivation Scale	10
Zimbardo Time Perspective Inventory	12
Procrastination Scale	14
RESULTS AND DISCUSSION	14
CONCLUSIONS	17
REFERENCES	20
APPENDICES	23
Appendix A. Academic Motivation Scale	23
Appendix B. Zimbardo Time Perspective Inventory	26
Appendix C. Procrastination Scale	31
Appendix D. Human Subjects-Institutional Review Board Approval Letter	34

LIST OF TABLES

TABLE PAGE

1. Means and Standard Deviations of Intrinsic Motivation for each Time Pespective (TP) Orientation Group (N = 305) 16

2. Means and Standard Deviations of Procrastination for each Time Perspective (TP) Orientation Group (N = 305) 18

Time Perspective, Academic Motivation, and Procrastination

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Running head: TIME PERSPECTIVE, MOTIVATION, AND PROCRASTINATION

Footnote

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Abstract

Time perspective, the way we partition time into past, present, and future, was examined in relation to academic motivation style (amotivation, extrinsic motivation, and intrinsic motivation on a self-determination continuum) and procrastination. The responses of 305 undergraduate students to scales assessing their time perspective, motivation style, and procrastination tendency were analyzed. Results indicated that (a) there is a positive relationship between the Future time perspective and intrinsic motivation, (b) future-oriented students are more intrinsically motivated for their academic work than students with bleak temporal outlooks (Past Negative and Present Fatalistic), (c) there is a positive relationship between the Present-Fatalistic orientation and amotivation, and (d) present-oriented students tend to procrastinate more than future-oriented students. The implications of these results are examined.

Time Perspective, Academic Motivation, and Procrastination

The study of human motivation explores the causes of behavior, why people choose to act or react in particular ways. Especially fruitful has been the distinction between intrinsic and extrinsic motivation, initially proposed by deCharms (1968). Intrinsic motivation has been defined as the propensity to explore and master one's internal and external worlds (Ryan, Connell, & Grolnick, 1992). According to Deci (1975, p. 23), "intrinsically motivated activities are ones for which there is no apparent reward except the activity itself". People engage in these activities for their own sake, and not because they lead to a reward. Therefore, intrinsically motivated activities are "ends in themselves rather than means to an end". In contrast, when extrinsically motivated, individuals behave in order to attain some external reward, avoid some threat, gain some recognition by another, or conform to some existent value (Ryan et al., 1992).

Self-determination, as defined by Deci and Ryan (1985), is "a quality of human functioning that involves the experience of choice, in other words, the experience of an internal perceived locus of causality" (p. 38). In addition to intrinsically motivated behaviors, which are by definition self-determined, Deci and Ryan have distinguished four types of extrinsic motivation that can be placed along a continuum describing their degree of self-determination. From lower to higher levels of self-determination, they are (a) external, (b) introjected, (c) identified, and (d) integrated regulation. External regulation is the most basic form of extrinsic regulation; it refers to behaviors for which the locus of initiation is external to the person, as in the case of being offered a reward or threatened with some punishment (Deci, Vallerand, Pelletier, & Ryan, 1991). For

example, a child may try to excel at reading to get a gold star from the teacher, or refrain from touching an expensive glass vase in order to avoid scolding from the mother. A behavior guided by external regulation is not chosen or self-determined; on the contrary, the individual feels controlled by the reward or the constraint. Introjected regulation involves taking in a regulation but not fully accepting it as one's own (Ryan & Deci, 2000). Someone who studies the night before a test in order to avoid guilt, or who achieves in order to maintain a fragile sense of self-esteem is guided by introjected regulation. Such behaviors are not self-determined; they are controlled by contingencies that, though internal to the person, are external to his or her integrated sense of self (Rigby, Deci, Patrick, & Ryan, 1992). Identified regulation occurs when a behavior is adopted as personally important and is perceived as being chosen by oneself. An example of identified regulation might be students who study hard for the graduate school entrance examination because attending graduate school is important to them. The behavior is extrinsically motivated because it is instrumental; however, it is also self-determined because it is done willingly, for personal reasons, rather than external pressure (Deci et al., 1991). The last type of extrinsic motivation is integrated regulation. At this level, the person does the behavior willingly and the self-regulation is consistent with the individual's self-concept (Vallerand & Bissonette, 1992). For example, a student might study hard for an exam because doing well in school is important for her as a person. Intrinsic motivation and integrated regulation are both characterized by self-determination; they differ in that integrated behavior is instrumental, while intrinsically motivated behavior is autotelic, or "done for its own sake" (Rigby et al., 1992).

Besides intrinsic and extrinsic motivation, Deci and Ryan (1985) have proposed a third type of motivational construct: amotivation. Individuals are amotivated when they perceive a lack of contingency between their behavior and outcomes. Amotivation is similar to learned helplessness in the sense that the individual experiences feelings of incompetence and lack of control. Since there are no rewards and no hope of changing the course of events, the activity eventually ceases.

Several studies have linked self-determined motivation to various educational outcomes. Ryan and Connell (1989) investigated achievement behaviors among school children and found evidence for an underlying continuum of self-determination. Moreover, they reported positive correlations between autonomous regulation and enjoyment of school, whereas the more controlling regulatory styles were found to be associated with greater anxiety and poorer coping with failures. Vallerand and Bissonette (1992) found that junior college students who persisted in a course had reported at the beginning of the semester being more intrinsically motivated, more identified and integrated, and less amotivated toward academic activities than students who dropped out of the course. Gottfried (1985, 1990) reported significant positive correlations between intrinsic motivation and children's achievement from the elementary through the junior high school years, and her results indicate that motivation in the primary grades predicts subsequent motivation. In summary, research results suggest that students with more autonomous regulatory styles are more likely to stay in school, to achieve, to evidence conceptual understanding, and to be well adjusted than are students with less self-determined types of motivation (Deci et al., 1991).

A variable that has not been studied in relation to self-determination is time perspective, or "the manner in which individuals and cultures partition the flow of human experience into the distinct temporal categories of past, present, and future" (Zimbardo, Keough, & Boyd, 1997, p. 1008). Time perspective provides a mental frame of reference that helps give coherence and meaning to the events in our lives and influences a wide range of psychological processes (Zimbardo & Boyd, 1999; Gonzalez & Zimbardo, 1985). On the basis of case studies, surveys, and repeated factor analyses, Philip Zimbardo and his research group developed a scale to assess individual differences in time perspective. The Zimbardo Time Perspective Inventory (ZTPI) is subdivided into five temporal dimensions: Present-Hedonistic, Past Negative, Future, Past-Positive, and Present-Fatalistic (Zimbardo & Boyd, 1999). The first temporal dimension, Present-Hedonistic, reflects an orientation toward present pleasure with little concern for future consequences. Hedonists are impulsive and enjoy taking risks. The second temporal dimension, Past-Negative, relates to a pessimistic, negative, or aversive attitude toward the past. The Future temporal dimension reflects an orientation toward goal setting and future rewards. The fourth temporal dimension, Past-Positive, relates to a good-natured, positive longing for the past. Finally, the Present-Fatalistic dimension involves fostering the belief of predetermination where it is "fate" and not individual actions or efforts that ultimately determines present and future outcomes.

Research on time perspective has, in general, linked future orientation to many positive consequences for individuals in the Western society, while the opposite holds true for those with a present orientation (Zimbardo & Boyd, 1999). For example, when

studying HIV risk among heterosexual college students, Rothspan and Read (1996) found that students high in future time orientation were less likely to be sexually experienced, had fewer sexual partners, and were more likely to use alternate methods of reducing exposure to HIV than those with a present time orientation. The present time perspective has been found to be significantly correlated with reported risky driving behaviors (Zimbardo, Keough, & Boyd, 1997) and with more frequent self-reported alcohol, drug, and tobacco use (Keough, Zimbardo, & Boyd, 1999). In a study about coping with homelessness, Epel, Bandura, and Zimbardo (1999) reported that among homeless adults living in a shelter, those high on future orientation had shorter durations of homelessness and were more likely to enroll in school and to report gaining positive benefits from their predicament, whereas those with a high present orientation had more avoidant coping strategies.

Relevant to the present work are studies relating time perspective to academic achievement. De Volder and Lens (1982) found that future-oriented students obtained better academic results, placed greater value on studying hard, and had more persistent study habits. Van Calster, Lens, and Nuttin (1987) reported that a positive attitude toward the future combined with a high perceived instrumentality gives the highest motivation to study and is associated with the best academic performances for a sample of high school students. Murrell and Mingrone (1994) reported that students with a future time perspective placed a strong emphasis on success via goal-directed behavior, paid attention to environmental cues, and engaged in a large number of activities to achieve those goals. Thus, research evidence suggests that there is a positive relationship

between the Future time perspective and superior academic achievement. These results, coupled with those regarding motivation and academic achievement discussed before, suggest the existence of a positive relationship between the Future time orientation and intrinsic motivation. In addition, since the Present-Fatalistic time orientation and amotivation are both characterized by feelings of lack of control over outcomes, a positive relationship is expected between the two constructs.

Procrastination has been defined by Solomon and Ruthblum (1984, p.503) as "needlessly delaying tasks to the point of experiencing subjective discomfort". Academic procrastination is characterized by putting off academic tasks and then very often experiencing high levels of anxiety associated with this procrastination (Rothblum, Solomon, & Murakami, 1986). Solomon and Rothblum found that nearly one fourth of the college students in their sample reported problems with procrastination on such academic tasks as writing term papers, studying for exams, and keeping up with weekly readings. Their research suggests that fear of failure and aversiveness of the task are the two primary independent reasons for procrastination.

Pertinent to this study are the results obtained by Harber, Zimbardo, and Boyd (submitted for publication, as cited in Zimbardo & Boyd, 1999) who found that among college students required to participate in research, those with a present time orientation started participating later than future-oriented students, they were three times as likely to be "no shows" and were also significantly more likely to be tardy in submitting self-report data. Based on these results, it is hypothesized that the present time orientation is accompanied by a tendency to procrastinate. Senécal, Koestner, and Vallerand (1995)

reported correlation results indicating that students with intrinsic reasons for pursuing academic tasks procrastinated less than those with less autonomous reasons (external regulation and amotivation). Thus, the prediction that present-oriented individuals procrastinate more than those who are future-oriented is fully compatible with the hypothesis that future time-oriented individuals are more self-determined than those with other temporal orientations.

To summarize, the goal of this study was to examine the relationship between time perspective, self-determination, and procrastination. Time perspective was assessed using the Zimbardo Time Perspective Inventory (ZTPI), which is subdivided in five subscales: Present Hedonistic, Past Negative, Future, Past Positive, and Present Fatalistic (Zimbardo & Boyd, 1999). The Academic Motivation Scale (AMS) developed by Vallerand et al. (1989) was used to assess amotivation, extrinsic motivation, and intrinsic motivation. This scale is made up of seven subscales assessing amotivation, three types of extrinsic motivation (external regulation, introjected regulation, and identified regulation) and three types of intrinsic motivation (to know, to accomplish, and to experience stimulation). These types of motivation are posited to be on a self-determination continuum that ranges from amotivation, to external, introjected, and identified regulation, and finally to intrinsic motivation (Vallerand et al., 1993). For the purposes of this study, the three intrinsic motivation subscales were combined to obtain a single score of intrinsic motivation. Finally, procrastination was measured using the procrastination scale developed by Tuckman (1991).

The hypotheses are as follows: (a) there is a positive relationship between the

Future time orientation and intrinsic motivation, (b) Future-oriented students are more intrinsically motivated than those with any other temporal perspective (c) there is a positive relationship between the Present-Fatalistic orientation and amotivation (d) present-oriented (Present Hedonistic or Present Fatalistic) individuals tend to procrastinate more than Future-oriented individuals.

Method

Participants

Archival data were examined from 323 introductory psychology students completing a large health study questionnaire as partial fulfillment for their research participation requirement. This questionnaire included the scales used for this study. Only 305 respondents who gave complete records for those scales were used in the analysis. The sample was composed of 153 females and 152 males. The mean age of all respondents was 19.59 years. As for the ethnic composition of the sample, 31.8% of the participants were Asian, 25.9% Caucasian, 13.1% Mexican American, 10.8% Pacific Islander, and 3.3% African American. The remainder reported themselves as Other (11.1%) or did not provide their ethnicity (1.3%). The participants were assigned according to a set criterion to time perspective groups (see p. 13). This assignment resulted in 30 students classified as Present Hedonistic, 30 Past Negative, 28 Future, 31 Past Positive, and 40 Present Fatalistic.

Measures

Academic Motivation Scale

Description. The Academic Motivation Scale (AMS) was developed by

Vallerand, Blais, Brière, & Pelletier (1989) to assess students' self-regulation styles as applied to academic activities. The English version of the scale (Vallerand, Pelletier, Blais, Brière, Senécal, & Vallières, 1993) was used for this study (see Appendix A). The AMS consists of seven subscales assessing amotivation, three types of extrinsic regulation (external, introjected, and identified) and three types of intrinsic motivation (to know, toward accomplishments, and to experience stimulation). Amotivated individuals are neither intrinsically nor extrinsically motivated; they do not perceive contingencies between outcomes and their own actions and they experience feelings of incompetence. External regulation describes behaviors that are regulated through external means such as rewards or constraints. Introjected regulation refers to behaviors that are motivated by what one thinks one should do or to avoid guilty feelings or keep a sense of self-esteem. Identified regulation occurs when a behavior is adopted by one's self as personally important and it is perceived as chosen and not forced or imposed. The intrinsic motivation to know relates to such constructs as exploration, curiosity, and learning. The intrinsic motivation toward accomplishments is related to the concept of mastery motivation: striving to feel competent in dealing with the environment. Finally, the intrinsic motivation to experience stimulation is displayed when the engagement in an activity is pursued in order to experience stimulating sensations (e.g., sensory pleasure, intellectual stimulation). The AMS is based on the tenets of self-determination theory, according to which amotivation is less self-determined than external regulation, which is less self-determined than introjected regulation, which in turn is less self-determined than identified regulation, which is less self-determined than intrinsic motivation. There has

been no basis for predicting that any of the intrinsic motivation types is more self-determined than the others.

On the AMS, respondents are asked: "Why do you go to college?" Each of the seven subscales is comprised of four items, yielding a 28-item scale. All items are answered on 7-point scales that range from not at all (1) to exactly (7). Here are some sample items from the scale: Amotivation subscale, "Honestly I don't know; I really feel that I'm wasting my time in college"; External Regulation, "In order to get a more prestigious job later on"; Introjected Regulation, "To prove to myself that I can do better than just a high-school degree"; Identified Regulation, "Because eventually it will allow me to enter the job market in a field that I like"; Intrinsic Motivation-To Know, "Because I experience satisfaction while learning new things; Intrinsic Motivation-Toward Accomplishments, "For the pleasure I experience while surpassing myself in my studies; Intrinsic Motivation-To Experience Stimulation, "For the high feeling that I experience while reading on various interesting subjects".

Scoring. Participants' responses for items on each of the AMS subscales were summed to create total subscale scores. In addition, for the purposes of this study, the three intrinsic motivation subscales (To Know, Toward Accomplishments, and To Experience Stimulation) were averaged together to create a single score of intrinsic motivation.

Zimbardo Time Perspective Inventory

Description. The Zimbardo Time Perspective Inventory (ZTPI) is a 60-items scale used to assess an individual's time perspective (see Appendix B). All items are answered

on a 5-point Likert scale anchored from 1 "Very Untrue" to 5 "Very True". The ZTPI measures five time dimensions: (1) Present-Hedonistic, (2) Past-Negative, (3) Future, (4) Past Positive, and (5) Present-Fatalistic. The Present-Hedonistic factor reflects an orientation toward present pleasure with little concerns for the future, a risk-taking attitude toward life. Examples of items in the ZTPI that assess the Present Hedonistic dimension are, "I take risks to put excitement in my life" and "I find myself getting swept up in the excitement of the moment". The Past-Negative factor reflects a generally negative view of the past. Examples of items in the Past-Negative subscale are "Painful past experiences keep being replayed in my mind" and "Things rarely work out as I expected". The Future factor is characterized by planning for and achievement of future goals. Examples of items that assess the Future dimension are "I complete projects on time by making steady process" and "I make lists of things to do". The fourth temporal dimension, Past-Positive, is characterized by a positive construction of the past. This subscale consists of items such as "Happy memories of good times spring readily to mind" and "It gives me pleasure to think about the past". Finally, the Present-Fatalistic factor reveals a belief that the future is predestined and that individuals are at the mercy of "fate". Examples of items assessing the Present-Fatalistic dimension are "Since whatever will be will be, it doesn't matter what I do" and "Often luck pays off better than hard work".

Scoring. Participants' responses for items on each Zimbardo Time Perspective Inventory (ZTPI) subscale were summed to create total subscale scores. The subscale total scores were then converted into standardized T-scores. Next, Time Perspective

groups were created. Only participants who had standardized scores equal or greater than one standard deviation above the mean were placed in groups. Participants who met this criterion were assigned to a group according to their highest standardized score among the five subscales.

Procrastination Scale

Description. This scale was developed by B. W. Tuckman (1991) to measure the tendency to procrastinate (see Appendix C). It consists of 35 items answered on 4-point scales (A = That's me for sure!, B = That's my tendency, C = That's not my tendency, D = That's not me for sure!). Examples of items in this scale are, "When I have a deadline, I wait until the last minute", "Whenever I make a plan of action, I follow it", and "I'm an incurable time waster".

Scoring. The responses for each item of the Procrastination Scale were summed to create a total procrastination score. Eleven items of this 35-items scale were subject to reverse scoring so that the higher the summated score, the higher the procrastination tendency.

Results and Discussion

To assess the hypothesis that there is a positive relationship between the Future temporal orientation and intrinsic motivation, the intercorrelation between the two constructs was computed, $r = .26$, $p < .001$. Moreover, a significant negative relationship was found between the Future temporal perspective and amotivation ($r = -.38$, $p < .001$). These correlations provide support for the hypothesis that the Future temporal dimension is characterized by intrinsic motivation, or in other words, by a high degree of self-

determination.

To test the hypothesis that Future-oriented individuals are more intrinsically motivated than individuals with any other temporal bias, a one-way analysis of variance was conducted on intrinsic motivation, with the result that F (4, 154) = 2.43, $p < .051$. The means and standard deviations for each group are shown in Table 1. The planned comparisons between the Future factor and the other temporal perspectives yielded non-significant differences for the Present Hedonistic and the Past Positive subscales (t (154) = .12 and t (154) = 1.14 respectively), while the differences with the Past Negative and Present Fatalistic subscales were statistically significant (t (154) = 2.10, $p < .05$ and t (154) = 2.36, $p < .05$ respectively). These results support partially the hypothesis that Future-oriented individuals are more intrinsically motivated than those with other temporal perspectives. The pattern of means in Table 1 suggests that individuals with positive temporal orientations (Past Positive, Present Hedonistic, and Future) benefit from higher intrinsic motivation than those with a bleak temporal outlook (Past Negative and Present Fatalistic). It is also important to note that the correlation between intrinsic motivation and the Future perspective (r = .26, $p < .001$) was higher than the correlation between intrinsic motivation and the Present-Hedonistic perspective (r = .11, n.s.) and than the correlation between intrinsic motivation and the Past-Positive dimension (r = .13, $p < .05$). The correlations with the Past-Negative and Present-Fatalistic dimensions were both negative (r = -.084, n.s. and r = -.12, $p < .05$ respectively).

To test the hypothesis that there is positive relationship between the amotivation subscale and the Present-Fatalistic subscale, the correlation between the two was

Table 1

Means and Standard Deviations of Intrinsic Motivation for each Time Perspective (TP) Orientation Group (N = 305)

TP Group	n	M	SD
Present Hedonistic	30	18.87	4.44
Past Negative	30	16.45	3.55
Future	28	19.02	5.09
Past Positive	31	17.65	6.08
Present Fatalistic	40	16.32	3.90

computed, with the result that $r = .28$, $p < .001$. Thus it was confirmed the prediction that people with a predominant Present-Fatalistic orientation tend to be highly amotivated.

To test the hypothesis that present-oriented individuals procrastinate more than future-oriented individuals, a one-way analysis of variance was computed on procrastination. The means and standard deviations for each of the five temporal perspective groups are shown in Table 2. A significant difference was found among the groups, $F(4,154) = 14.70$, $p < .001$, $R^2 = .28$. A planned comparison between the Future time perspective ($M = 72.68$, $SD = 9.71$) and the Present Hedonistic and Present Fatalistic perspectives combined ($M = 88.91$, $SD = 10.11$), yielded a significant difference, $t(154) = 6.00$, $p < .001$. According to these results, the present time perspective is characterized by higher degrees of procrastination than the future time perspective. Moreover, there was a significant positive relationship between procrastination and amotivation ($r = .25$, $p < .001$) and a significant negative relationship between procrastination and intrinsic motivation ($r = -.34$, $p < .001$), confirming past results.

Conclusions

Temporal perspective, the way in which the flow of human experience is partitioned into past, present, and future categories, has been studied in relation to intrinsic motivation and procrastination. The Future temporal perspective was found to be positively associated to intrinsic motivation, which in the past has been related to superior academic achievement. Those students with a Future time orientation were found to be more intrinsically motivated for their academic work than students with bleak

Table 2

Means and Standard Deviations of Procrastination for each Time Perspective (TP) Orientation Group (N = 305)

TP Group	n	M	SD
Present Hedonistic	30	87.47	10.32
Past Negative	30	93.10	12.84
Future	28	72.68	9.70
Past Positive	31	79.34	16.01
Present Fatalistic	40	90.00	9.93

temporal outlooks (Past Negative and Present Fatalistic). The results suggest that those with a positive temporal outlook (Past-Positive, Present- Hedonistic, or Future) exhibit higher self-determination than those with a negative temporal outlook (Present-Fatalistic or Past-Negative). It was also found that the Present-Fatalistic orientation, characteristic of those who do not believe that anything they do can make a difference in their lives, is positively correlated to amotivation. The sense of predestination that these individuals experience must prevent them from taking steps toward self-determination. Finally, a robust finding confirmed that present-oriented individuals tend to procrastinate more than future-oriented individuals and that procrastination is negatively correlated to intrinsic motivation.

Intrinsic motivation and future time perspective have both been repeatedly associated to positive outcomes in the academic domain. In light of these results, students could clearly benefit from teaching practices that maintain or increase their intrinsic motivation for learning and also from interventions geared toward strengthening their Future time perspective for its application in the school domain. However, it is important to bear in mind that, in terms of time perspective, the ultimate goal should be achieving a healthy balance among the orientations so that the individual is able to bring into play the time perspective that is more adaptive for each particular situation and personal circumstances.

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Appendix A
Academic Motivation Scale

Instructions

WHY DO YOU GO TO COLLEGE?

Using the scale below, indicate to what extent each of the following items presently corresponds to one of the reasons why you go to college.

Does not correspond at all		Corresponds a little		Corresponds moderately		Corresponds a lot		Corresponds exactly
1	2		3	4		5	6	7

Items

1. Because with only a high-school degree I would not find a high-paying job later on.
2. Because I experience pleasure and satisfaction while learning new things.
3. Because I think that a college education will help me better prepare for the career I have chosen.
4. For the intense feelings I experience when I am communicating my own ideas to others.
5. Honestly, I don't know; I really feel that I am wasting my time in school.
6. For the pleasure I experience while surpassing myself in my studies.
7. To prove to myself that I am capable of completing my college degree.
8. In order to obtain a more prestigious job later on.
9. For the pleasure I experience when I discover new things never seen before.

10. Because eventually it will enable me to enter the job market in a field that I like.
11. For the pleasure that I experience when I read interesting authors.
12. I once had good reasons for going to college; however, now I wonder whether I should continue.
13. For the pleasure that I experience while I am surpassing myself in one of my personal accomplishments.
14. Because of the fact that when I succeed in college I feel important.
15. Because I want to have "the good life" later on.
16. For the pleasure that I experience in broadening my knowledge about subjects which appeal to me.
17. Because this will help me make a better choice regarding my career orientation.
18. For the pleasure that I experience when I feel completely absorbed by what certain authors have written.
19. I can't see why I go to college and frankly, I couldn't care less.
20. For the satisfaction I feel when I am in the process of accomplishing difficult academic activities.
21. To show myself that I am an intelligent person.
22. In order to have a better salary later on.
23. Because my studies allow me to continue to learn about many things that interest me.
24. Because I believe that a few additional years of education will improve my competence as a worker.
25. For the "high" feeling that I experience while reading about various interesting

subjects.

26. I don't know; I can't understand what I am doing in school.

27. Because college allows me to experience a personal satisfaction in my quest for excellence in my studies.

28. Because I want to show myself that I can succeed in my studies.

Scoring Key

# 2, 9, 16, 23	Intrinsic Motivation – To Know
# 6, 13, 20, 27	Intrinsic Motivation – Toward Accomplishments
# 4, 11, 18, 25	Intrinsic Motivation – To Experience Stimulation
# 3, 10, 17, 24	Extrinsic Motivation – Identified
# 7, 14, 21, 28	Extrinsic Motivation – Introjected
# 1, 8 , 15, 22	Extrinsic Motivation – External Regulation
# 5, 12, 19, 26	Amotivation

The sum of the scores for the four questions that make up each subscale yields the total score for that subscale.

Appendix B

Zimbardo Time Perspective Inventory

Instructions

Read each item and, as honestly as you can, answer the question: "How characteristic or true is this of you?" Check the appropriate box using the scale. Please answer ALL of the following questions on both sides.

Very Untrue		Neutral		Very True
1	2	3	4	5

Items

1. I believe that getting together with one's friends to party is one of life's important pleasures.
2. Familiar childhood sights, sounds, smells often bring back a flood of wonderful memories.
3. Fate determines much in my life.
4. I often think of what I should have done differently in my life.
5. My decisions are mostly influenced by people and things around me.
6. I believe that a person's day should be planned ahead each morning.
7. It gives me pleasure to think about my past.
8. I do things impulsively.
9. If things don't get done on time, I don't worry about it.

10. When I want to achieve something, I set goals and consider specific means for reaching those goals.
11. On balance, there is much more good to recall than bad in my past.
12. When listening to my favorite music, I often lose all track of time.
13. Meeting tomorrow's deadlines and doing other necessary work comes before tonight's play.
14. Since whatever will be will be, it doesn't really matter what I do.
15. I enjoy stories about how things used to be in the "good old times."
16. Painful past experiences keep being replayed in my mind.
17. I try to live my life as fully as possible, one day at a time.
18. It upsets me to be late for appointments.
19. Ideally, I would live each day as if it were my last.
20. Happy memories of good times spring readily to mind.
21. I meet my obligations to friends and authorities on time.
22. I've taken my share of abuse and rejection in the past.
23. I make decisions on the spur of the moment.
24. I take each day as it is rather than try to plan it out.
25. The past has too many unpleasant memories that I prefer not to think about.
26. It is important to put excitement in my life.
27. I've made mistakes in the past that I wish I could undo.
28. I feel that it's more important to enjoy what you're doing than to get work done on time.

29. I get nostalgic about my childhood.

30. I often have deep, long conversations with my friends.

31. Before making a decision, I weigh the costs against the benefits.

32. Taking risks keeps my life from becoming boring.

33. It is more important for me to enjoy life's journey than to focus only on the destination.

34. The concrete reality of the present moment is more valuable to me than thoughts of the future.

35. Things rarely work out as I expected.

36. It's hard for me to forget unpleasant images of my youth.

37. It takes joy out of the process and flow of my activities, if I have to think about goals, outcomes, and products.

38. Even when I am enjoying the present, I am drawn back to comparisons with similar past experiences.

39. You can't really plan for the future because things change so much.

40. My life path is controlled by forces I cannot influence.

41. It doesn't make sense to worry about the future, since there is nothing that I can do about it anyway.

42. I complete projects on time by making steady progress.

43. I find myself tuning out when family members talk about the way things used to be.

44. I take risks to put excitement in my life.

45. I make lists of things to do.

46. I often follow my heart more than my head.

47. I am able to resist temptations when I know that there is work to be done.

48. I find myself getting swept up in the excitement of the moment.

49. Life today is too complicated; I would prefer the simpler life of the past.

50. I prefer friends who are spontaneous rather than predictable.

51. I like family rituals and traditions that are regularly repeated.

52. I think about the bad things that have happened to me in the past.

53. I rely on experience to help me make important decisions.

54. I keep working at difficult, uninteresting tasks if they will help me get ahead.

55. Spending what I earn on pleasures today is better than saving for tomorrow's security.

56. Often luck pays off better than hard work.

57. I think about the good things that I have missed out on in my life.

58. I'm easily distracted by things around me.

59. I like my close relationships to be passionate.

60. There will always be time to catch up on my work.

Scoring Key

Present Hedonistic	# 1 , 8 , 12, 17, 19, 23, 26, 30, 32, 44, 46, 48, 50, 59
Past Negative	# 4 , 5 , 16, 22, 25, 27, 35, 36, 38, 52, 57, 58
Future	# 6 , 10, 13, 18, 21, 24(R), 28(R), 31, 37(R), 42, 45, 47, 53, 54, 60(R)
Past Positive	# 2, 7 , 11, 15, 20, 29, 43(R), 51

Present Fatalistic # 3, 9 , 14, 34, 39, 40, 41, 49, 55, 56

The sum of the scores for the questions that make up each factor yields the total score for that factor. Items followed by (R) are subjected to reverse scoring, so that the higher the summated score, the stronger the corresponding time perspective.

Appendix C

Procrastination Scale

Instructions

Each item below will have one of the following responses. Enter the response which BEST describes you in the given situation.

A. That's me for sure!

B. That's my tendency

C. That's not my tendency

D. That's not me for sure

Items

1. I needlessly delay finishing jobs, even when they are important.
2. I postpone starting in on things I don't like to do.
3. When I have a deadline, I wait till the last minute.
4. I delay making tough decisions.
5. I stall on initiating new activities.
6. I'm on time for appointments.
7. I keep putting off improving my work habits.
8. I get right to work, even on life's unpleasant chores.
9. I manage to find an excuse for not doing something.
10. I avoid doing those things which I expect to do poorly.
11. I put the necessary time into even boring tasks, like studying.

12. When I get tired of an unpleasant job, I stop.

13. I believe in "keeping my nose to the grindstone."

14. When something's not worth the trouble, I stop.

15. I believe that things I do not like doing should not exist.

16. I consider people who make me do unfair and difficult things to be rotten.

17. When it counts, I can manage to even enjoy studying.

18. I am an incurable time waster.

19. I feel it's my absolute right to have other people treat me fairly.

20. I believe that other people don't have the right to give me deadlines.

21. Studying makes me feel entirely miserable.

22. I am a time waster now but I can't seem to do anything about it.

23. When something's too tough to tackle, I believe in postponing it.

24. I promise myself I'll do something and then drag my feet.

25. Whenever I make a plan of action, I follow it.

26. I wish I could find and easy way to get myself moving.

27. When I have trouble with a task, it's usually my own fault.

28. Even though I hate myself if I don't get started, it doesn't get me going.

29. I always finish important jobs, with time to spare.

30. When I'm done with my work, I check it over.

31. I look for a loophole or shortcut to get through a tough task.

32. I get stuck in neutral even though I know how important it is to get started.

33. I never met a job I couldn't "lick."

34. Putting something off until tomorrow is not the way I do it.

35. I feel that work burns me out.

Scoring Key

A = 4, B = 3, C = 2, D = 1

Items 6, 8, 11, 13, 17,, 25, 27, 29, 30, 33, and 34 are subjected to reverse scoring.

The higher the summated score, the higher the procrastination tendency.

Appendix D

Human Subjects-Institutional Review Board Approval Letter

San José State
UNIVERSITY

Office of the Academic Vice President
Associate Vice President Graduate Studies and Research
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TO: Graciela N. Borsato
330 N. Mathilda Ave., #912
Sunnyvale, CA 94086

FROM: Nabil Ibrahim, N. Ibrahim
AVP, Graduate Studies & Research

DATE: November 6, 2000

The Human Subjects-Institutional Review Board has approved your request for exemption from human subject's review under category "D" in the study entitled:

"Time Perspective and Academic Motivation"

This approval is contingent upon the subjects participating in your research project or the subject's data collected for the research project being appropriately protected from risk. This includes the protection of the anonymity of the subjects' identity when they participate in your research project, unless they are serving as a primary source, and with regard to any and all data that may be collected from the subjects. The Board's approval includes continued monitoring of your research to assure that the subjects are being adequately and properly protected from such risks. If at any time a subject becomes injured or complains of injury, you must notify Nabil Ibrahim, Ph.D., immediately. Injury includes but is not limited to bodily harm, psychological trauma and release of potentially damaging personal information.

Please also be advised that all subjects need to be fully informed and aware that their participation in your research project is voluntary, and that he or she may withdraw from the project at any time. Further, a subject's participation, refusal to participate, or withdrawal will not affect any services the subject is receiving or will receive at the institution in which the research is being conducted. This approval is granted for a one-year period and data collection beyond November 6, 2001 requires an extension request.

If you have any questions, please contact me at (408) 924-2480.